February 1, 2010

Darcy L. Endo-Omoto
Vice President
Government & Community Affairs

The Honorable Chairman and Members of the
Hawaii Public Utilities Commission
465 South King Street, First Floor
Kekuanaoa Building
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Docket No. 2008-0273 – Feed-in Tariff ("FIT") Proceeding
Report on Queuing and Interconnection Procedures

Pursuant to the Commission's October 29, 2009 Order Setting Schedule in the above-subject proceeding, Hawaiian Electric Company, Inc. ("Hawaiian Electric"), Hawaii Electric Light Company, Inc. ("HELCO"), and Maui Electric Company, Limited ("MECO") (collectively the "Hawaiian Electric Companies" or "Companies"), respectfully submit for Commission consideration the attached report prepared by Merrimack Energy Group, Inc. ("Merrimack Energy") on the Development of the Feed-In Tariff Queuing and Interconnection Procedures and Proposal for Initial Implementation ("Report").

Procedural Background and Summary

Through its September 25, 2009 Decision and Order ("Decision and Order") the Commission directed the Hawaiian Electric Companies to "*collaborate with the other parties to craft queuing and interconnection procedures that will minimize delays associated with numerous potential FIT projects and the various interconnection studies they could require.*" (Decision and Order at 92-93) The Decision and Order discussed generally that such procedures should "*include project development milestones to advance in the queue and deposits for applicants,*" "*include a mechanism for applicants to apply for extensions,*" and "*maintain the incentive for only viable projects to apply for interconnection studies.*" (Decision and Order at 93)

The Hawaiian Electric Companies' compliance with the provisions of the Decision and Order is summarized below and discussed in detail in the attached Report. Notably, the Companies have made, and continue to make, every effort to comply with the Commission's directive that an independent third party, similar to the Independent Observer ("IO") in the Competitive Bidding Framework "*should oversee the queuing process for FIT projects*" and "*will assist in developing the queue process.*" (Id.) (Emphasis supplied) Accordingly, and as described more fully herein, the Companies endeavored to accelerate the process for the selection and approval of the IO, have engaged with the IO regarding the queuing and

interconnection procedures and processes described in the Merrimack Report, and have included the IO in discussions with stakeholders for the purpose of securing their comments and answering their questions. The Hawaiian Electric Companies look forward to continuing their collaboration with the IO and the stakeholders to develop fair, transparent and effective queuing and interconnection procedures and to improving those procedures over time as lessons are learned and the FIT program evolves.

Development of FIT Queuing Procedures

The Hawaiian Electric Companies retained Merrimack Energy to assist in the development of the queuing and interconnection procedures for the Feed-in Tariff ("FIT") program. In undertaking this assignment, Merrimack Energy and Hawaiian Electric's Project Team conducted research into and reviewed the FIT programs implemented in other states and Canadian Provinces. These include recent FIT programs implemented by Ontario Power Authority ("OPA") in 2009, Gainesville Regional Utilities ("GRU") Solar Feed-in Tariff, the Vermont FIT Program and the FIT program and process in California. In addition, the Project Team reviewed the queuing procedures for various Independent System Operator ("ISO") systems, including the Midwest ISO and the California ISO. Merrimack Energy and Hawaiian Electric also initiated calls with both the Sustainably Priced Energy Development ("SPEED") Facilitator in Vermont and the Solar Program Coordinator for the GRU program to discuss their programs and their "lessons learned" to date. A summary of Merrimack's research is included in the attached Report.

Collaborative Process

Under the guidance of the Decision and Order, the Hawaiian Electric Companies developed the queuing and interconnection procedures in a collaborative fashion which included input from the parties in the FIT docket and the IO. Two extensive technical workshops were held where the parties were encouraged to provide their thoughts on proposed procedures to both the Companies as well as the IO. Additionally, the Hawaiian Electric Companies responded to a number of information requests from the parties for the purpose of receiving additional input and providing responses to outstanding questions. Moreover, the IO has made himself available to the parties so that comment and feedback may be sent directly to the IO without the direct involvement of the Companies

The first workshop, held in November 2009, focused on providing the parties in the FIT docket with an explanation of the Hawaiian Electric Companies' proposed approach for developing the queuing and interconnection procedures for the FIT Program. The Companies advised the parties that research into queuing procedures in other jurisdictions that have implemented FIT programs was already underway and would continue.

The workshop also identified the concepts being considered by the Companies in the development of the FIT queuing procedures. These concepts were presented to the

participants with the specific intent of soliciting their feedback and constructive input. These concepts for discussion included acknowledgement of the potential for queues to be filled quickly, setting of the appropriate level of application fee, determining what constitutes a complete application, conduct of a project assessment to rank projects for queue priority, coordination with other contracting mechanisms, transparency of postings, whether to require security deposits, and what milestone checks might be considered to ensure that only the most viable and committed projects are included in the queue.[1]

The second workshop, held in January 2010, focused on providing the participants with an update from the first workshop, a review of the draft application and queuing procedures, and a feedback session conducted by Harry T. Judd of Accion Group, Inc., serving informally as the IO.

The feedback session led by the IO allowed the participants an opportunity to provide their comments directly to the IO. Feedback was generally supportive of the IO's suggestion to adopt a "walk before you run" approach for rolling out the FIT program. This approach would focus on a limited release of a Tier 1 increment and conducting an initial validation of the application, queuing and interconnection processes before releasing an initial increment of Tier 2. Participants recommended that the Companies provide for flexibility in the process to allow reopening any Tier level for additional increments of capacity rather than simply allocating the balance to the remaining Tiers. Additional information regarding the feedback received is included in the attached Report.

Future Workshops

The Hawaiian Electric Companies appreciate that the collaboration with the parties should not end with the filing of the queuing and interconnection procedures. At various key stages in the program, it will likely be beneficial for additional workshops to be held. For example, once the web-based application process is available, the Companies proposes to schedule a hands-on workshop that would allow participants to view the website and practice submitting applications. This same workshop would also allow the Companies and participants to evaluate the software and process to determine if the queuing procedures are working as expected or whether adjustments are necessary.

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[1] The FIT Program queue will operate in parallel to other energy contracting mechanisms, including but not limited to negotiated PPAs and competitive bidding. Today's filing pertains specifically to the FIT Program, however, in developing the proposed FIT queuing procedures, the Hawaiian Electric Companies are mindful of their potential applicability to other energy contracting mechanisms and the importance of establishing an overall energy procurement framework that is fair and transparent to all projects, regardless of contract type. The Hawaiian Electric Companies intend to develop additional information concerning this issue, in consultation with the IO, in the course of developing the proposed Tier 3 FIT.

Participation of the Independent Observer

Given the compressed schedule and deadline for the filing of queuing and interconnection procedures with the Commission, the Hawaiian Electric Companies sought the informal participation of Mr. Judd in discussions regarding queuing and interconnection procedures development.[2] Mr. Judd graciously agreed and accordingly, since the beginning of January 2010, he has actively participated in the development of the queuing and interconnection procedures and has provided his input and guidance to the Hawaiian Electric Companies. Mr. Judd also personally conducted the feedback session in the January workshop and provided participants an opportunity to dialogue directly with him and encouraged them to voice their comments or concerns directly to him at any time going forward.

Mr. Judd, who as of this writing has been approved as the IO, has been provided an opportunity to review and provide comments on the drafts of the Merrimack Report. The final version attached reflects comments provided by the IO. Pursuant to the Commission's approval of Mr. Judd as the IO, it is anticipated that the IO will be providing an independent report to the Commission regarding his findings, determinations and recommendations for further action with regard to the program's queuing and interconnection procedures after review of the information requests, responses thereto and comments to be received on February 11, 18 and 22, respectively.

Sincerely,

Darcy Endo-Omoto
Vice President
Government & Community Affairs

Attachments

c: Service List

[2] On January 28, 2010, the Commission approved the contract for Harry T. Judd of Accion Group, Inc. to serve as the IO in accordance with the Commission's Decision and Order in this proceeding.

Hawaiian Electric Company, Inc.

Development of Feed-in Tariff

Queuing and Interconnection Procedures

and

Proposal for Initial Implementation

Prepared by

Merrimack Energy Group, Inc.

February 1, 2010

Report on the Development of Queuing and Interconnection Procedures for Hawaiian Electric's Feed-in Tariff ("FIT") Program Proposal for Initial Implementation

I. The Role of Merrimack Energy in the Design of the FIT Queuing and Interconnection Procedures

Merrimack Energy Group, Inc. ("Merrimack Energy") was retained by Hawaiian Electric Company, Inc. ("Hawaiian Electric") to assist in the development of the queuing procedures for the Hawaiian Electric Company's Feed-in Tariff ("FIT") program. Merrimack Energy has had considerable experience in the design and development of procurement processes for renewable generation resources including serving as Independent Evaluator in nearly forty procurement proceedings. Recent applicable assignments include:

- Merrimack Energy was retained by Southern California Edison ("SCE") to serve as Independent Evaluator for SCE's 2009-2010 Rooftop Solar PV Program;
- Merrimack Energy was retained by Arizona Public Service ("APS") to serve as Independent Monitor for APS's 2009 Request for Proposals for Renewable Energy Small Generation Resources;
- Merrimack Energy was retained to serve as Independent Auditor for APS's 2008 Request for Proposals for Distributed Renewable Energy Resources;
- Merrimack Energy served as Fairness Advisor for the Ontario Power Authority's 2006 RFP for Demand Response and Behind the Meter Generation Options.

In undertaking this assignment, Merrimack Energy and Hawaiian Electric's Project Team conducted research into and reviewed the FIT programs implemented in other states and Canadian Provinces. These include recent FIT programs implemented by Ontario Power Authority ("OPA") in 2009, Gainesville Regional Utilities ("GRU") Solar Feed-in Tariff, the Vermont FIT Program and the FIT program and process in California. In addition, we reviewed the programs establishing queuing procedures for various Independent System Operator ("ISO") systems, including the Midwest ISO and the California ISO. Merrimack Energy and Hawaiian Electric also initiated calls with both the Sustainably Priced Energy Development ("SPEED") Facilitator in Vermont and the Solar Program Coordinator for the Gainesville Regional Utilities program to discuss their programs and

the "lessons learned" to date. A summary of Merrimack's research is provided as Exhibit 1.

The "lessons learned" and the specific experiences in Vermont, Gainesville, and Ontario are reflected in the development of the following Hawaiian Electric queuing procedures.

II. Background

The FIT program in Hawaii ("FIT Program") was established based on the Decision and Order of the Public Utilities Commission of Hawaii ("PUC" or "Commission") in Docket No. 2008-0273 (Instituting a Proceeding to Investigate the Implementation of Feed-in Tariffs on September 25, 2009)("D&O"). Hawaiian Electric, Maui Electric Company, Ltd. ("MECO"), and Hawaii Electric Light Company, Inc. ("HELCO") (collectively, "Hawaiian Electric Companies" or "Company") are responsible for implementing the FIT Program for their respective electric grids, under the oversight of an Independent Observer ("IO")[1].

Upon PUC approval of the Schedule FIT Tier 1 and Tier 2, and Schedule FIT Tier 3 tariffs, energy payment rates will be established for the following eligible technologies:

- Photovoltaic ("PV")
- Concentrated Solar Power ("CSP")
- Onshore Wind
- In-line hydropower projects

The FIT Program is available to an eligible renewable energy generating facility in three tiers based on project size:

- Tier 1 – 0 to 20 kW on all islands

- Tier 2 – Greater than 20 kW and up to and including:
  - PV: 500 kW on Oahu; 250 kW on Maui and Hawaii; and 100 kW on Lanai and Molokai
  - CSP: 500 kW on Oahu, Maui and Hawaii and 100 kW on Lanai and Molokai;
  - In-line hydropower and onshore wind: 100 kW on all islands

- Tier 3 – Greater than Tier 2 maximums and up to and including the lesser of 5 MW on Oahu and 2.72 MW on Maui and Hawaii or 1% of the system peak load from the previous year, except that wind generation is precluded on Maui and Hawaii. No Tier 3 FIT for Molokai and Lanai.

[1] The contract for Harry T. Judd of Accion Group, Inc. as the Independent Observer was submitted for approval to the Commission by Hawaiian Electric on December 7, 2009 (revised on January 26, 2010) and was approved on January 28, 2010. Given the compressed schedule for deadlines in this docket, the Independent Observer has informally participated in the development of these procedures and proposal in advance of his formal approval by the Commission.

In addition to the size and resource requirements identified above, additional eligibility requirements and provisions have been included, such as:

- An Applicant is required to submit a non-refundable application fee for each project proposed, with a project defined as a specific new eligible renewable energy generating facility at a unique site. Other than with the written consent of the Company, which consent shall not be unreasonably withheld, each physical address (defined as a single residential address or single tax map key if a commercial or industrial facility) may not have more than one Facility of the same technology type contracted under this Schedule FIT. In addition, each project will be separately metered, further defining the site requirements;

- The term of the Schedule FIT Tier 1 and Tier 2 Agreement, and Schedule FIT Tier 3 Agreement, for FIT eligible projects, will be twenty (20) years;

- Payments under the FIT program will be made monthly to the seller based on the amount of metered generation delivered to the Hawaiian Electric grid;

- All environmental attributes of the project (i.e. carbon credits, renewable energy certificates, etc.) become the property of Hawaiian Electric for the benefit of ratepayers;

- Hawaiian Electric's customers currently participating in the Company's Net Energy Metering ("NEM") program will be offered a one time option to convert to the FIT Program.

FIT Program Objectives

There are several objectives associated with the FIT Program that have influenced the design and development of the queuing procedures discussed in this document. These objectives include:

- Facilitate the development of eligible renewable energy generating facilities by streamlining the process for such facilities to secure contracts to sell energy and other attributes to the utility through a fair and transparent methodology ;

- Accelerate the acquisition and implementation of viable renewable energy projects by standardizing the process for securing contracts and by providing predictability and certainty with respect to the future prices to be paid for renewable energy and the terms and conditions pursuant to which the renewable energy will be provided;

- Interconnect eligible renewable energy projects that can be brought online quickly.

III. Development of Queuing Procedures

Under the guidance of the Commission's D&O, Hawaiian Electric sought to develop the queuing procedures in a collaborative fashion which included input from the parties in the FIT docket and the IO. Two workshops were held in addition to exchanging information requests and responses between Hawaiian Electric and the parties. The IO has also made himself available to the parties to provide their comments and feedback directly to him on the development of the queuing procedures. A brief overview of the process for developing the queuing procedures follows:

Workshop 1 – November 19, 2009

This workshop focused on providing the parties in the FIT docket with an explanation of Hawaiian Electric's proposed approach for developing the queuing procedures for the FIT Program. A copy of the workshop materials is provided as Exhibit 2. A summary of the sections of the Commission's D&O pertaining to queuing procedures was provided to show the overall guidance that would be taken into account during the development of the queuing procedures.

Hawaiian Electric advised the parties that research into queuing procedures in other jurisdictions that have implemented FIT programs was already underway and would continue. A summary of research conducted by Merrimack Energy Group, Inc. as of the date of the workshop, which included Gainesville Regional Utilities in Florida, Ontario Power Authority, and Vermont was shared with the participants. Hawaiian Electric also discussed research being conducted in other jurisdictions with respect to the application of "First Come, First Served" and "First Ready, First Served" processes as implemented by the MidWest ISO and the California ISO. At that time, Hawaiian Electric suggested that the approach of "optimizing" the successful aspects of the other programs and incorporating recommendations from various FIT programs in other jurisdictions would likely result in a "hybrid" approach.[2] This hybrid approach would be intended to attempt to reflect "lessons learned" from other jurisdictions, to take into account any Hawaii specific issues that may be appropriate, as well as any feedback from the participants.

The workshop identified concepts being considered by Hawaiian Electric in the development of the FIT queuing procedures. These concepts were presented to the participants with the specific intent of soliciting their feedback and constructive input. These concepts for discussion included acknowledgement of the potential for queues to be filled quickly, setting of the appropriate level of application fee, determining what constitutes a complete application, conduct of a project assessment to rank projects for the queue priority, coordination with other contracting mechanisms, transparency of the posting on the queue, whether to require security deposits, and what milestones checks might be considered to ensure that only the most viable and committed projects are included in the queue.

[2] The "hybrid approach" would include components of both the "first-come first-serve" and "first-ready first-serve" processes.

At the time of this workshop, the IO had not yet been retained. Since then, a copy of the workshop materials and a recounting of the feedback received from the participants were shared with the IO.

Workshop 2 – January 19, 2010

This second workshop focused on providing the participants with an update from the first workshop, a review of the draft application and queuing procedures, and a feedback session conducted by Harry T. Judd of Accion Group, Inc. serving informally as the IO. A copy of the workshop materials is provided as Exhibit 3.

The feedback session led by the IO allowed the participants an opportunity to provide their comments directly to the IO. Feedback was generally supportive for the IO's suggestion of adopting a "walk before you run" approach of rolling out the FIT program by focusing on a limited release of a Tier 1 increment and conducting an initial validation of the application and queuing process before releasing an initial increment of Tier 2. Participants recommended that Hawaiian Electric provide for flexibility in the process to allow reopening any Tier level for additional increments of capacity rather than simply allocating the balance to the remaining Tiers.

Feedback was also positive on the use of a web-based application process and queue information status, registration of applicants in advance, consideration of different levels of information posted for individual homeowner applicants versus commercial applicants, setting strict project completion deadlines for Tier 1 projects in lieu of fees and security deposits, and allowing applicants to accept the FIT standard agreement online instead of submitting a signed hard copy. Participants did express concerns regarding use of subjective criteria to rank projects for queuing priority and encouraged that applicants be provided objective pass/fail type criteria that will define how Hawaiian Electric will identify the most viable projects.

Additional Workshops Planned

Hawaiian Electric recognizes that the collaboration with the parties should not end with the filing of the queuing procedures. At various key stages in the program, it will likely be beneficial for additional workshops to be held. For example, once the web-based application process is available, Hawaiian Electric proposes to schedule a hands-on workshop that will allow participants to view the website and practice submitting applications. This same workshop will allow Hawaiian Electric and participants to evaluate the software and process to determine if the queuing procedures are working as expected or whether adjustments are necessary.

IV. Overview of the Proposed Queuing Process for Tiers 1 and 2

Application and Queuing Process

The proposed Application and Queuing Process for Tiers 1 and 2 is illustrated in Figure 1. The application and queuing process for Tier 3 projects is anticipated to follow the same general approach, but may require some revisions. The information requested in the Application Package is expected to be tailored specifically to the information necessary to consider projects for each Tier. It is anticipated that most Tier 1 projects will not trigger a need for an Interconnection Requirements Study ("IRS") (see Interconnection Assessment and Review Process section, below) and will very likely follow a much simplified application process as shown in Figure 2.

Pre-Application/Registration Process

Applicants to the Program will be encouraged to visit Hawaiian Electric's FIT website which will be made available prior to roll out of the FIT program – to review the following documents and requirements in detail before beginning the application process. All relevant documents will be made available on the FIT Program website.

- Application Form and Requirements
- FIT Queuing Procedures
- Schedule FIT Tariff
- Schedule FIT Standard Agreement
- Interconnection Requirements including Rule 14.H
- Link to Locational Value Maps to assess the potential level of circuit capacity in the area of interest to the Applicant
- Information explaining the differences between Hawaiian Electric's Net Energy Metering program and the Feed-In Tariff program

As a first step in the process, potential applicants and interested parties are required to register on the FIT program website.[3] Registrants ("Applicants") will be provided with a password and user name and a specific project folder for each project the Applicant proposes. All correspondence with the Applicant will be handled through the project folder. Applicants who register for the FIT program are not obligated to submit an application.

Application Process

Applicants are required to complete the online Application Form for the FIT Program consistent with the Tier requirements for the proposed project (box A-1). Draft sample completed application forms for projects in each tier will be provided on Hawaiian Electric's website prior to the program initiation date. Applicants can review these forms

[3] Interested parties will be able to review the publicly available documents and other publicly available information without registering, but will not have access to information pertinent to actual Applicants.

to assist in preparation for submission of their application and to test the forms using specific information for their project. The actual Application Forms that Applicants are required to submit will be posted on Hawaiian Electric's FIT Program website prior to the FIT Tier release date.

The Application Form and other required information and documents (collectively *referred to as the Application Package) for each Tier must be completed and submitted* electronically to the applicable Hawaiian Electric FIT Program website address. The Application Form will not be accepted electronically until all information is properly completed. Applicants are required to submit the Application Form and supporting information specific to the Tier in which they are participating.

Applicants will be required to acknowledge acceptance of the Schedule FIT Tier 1 and Tier 2 Agreement, or Schedule FIT Tier 3 Agreement, as applicable, as part of the application submittal process. Only projects that are selected for the queue will be offered a Schedule FIT Tier 1 and Tier 2 Agreement, or a Schedule FIT Tier 3 Agreement ("Agreement" or generally, "contract"), as applicable.

Application Fees and Deposits

After properly completing and submitting the application online, the Applicant will receive a computer generated confirmation email providing an application reference number, and notation of the date and time the application was received. Tier 1 Applicants will be instructed to submit a non-refundable application fee of $200 within five business days.

For Tier 2 projects, the Applicant will be required to submit a non-refundable application fee of $10/kW up to $1,000 as well as a refundable reservation deposit of $15/kW based on the design capacity (AC) of the generating facility proposed in the Application Form within five (5) business days. The reservation deposit will be refunded to the Applicant when the project achieves commercial operation, subject to the condition that the project capacity (in kW) implemented is substantially equivalent to the project capacity listed in the application. The required fees, deposits, security and other costs are described below for each Tier.

	Tier 1	Tier 2
Application Fee (non-refundable)	$200	$10/kW up to $1,000
Reservation Deposit (refundable upon successful completion of the project	Not required	$15/kW
IRS Study, if required	Estimate to be provided	Estimate to be provided
Security deposit or performance bond, due after acceptance of the IRS results	Based on the amount of the additional interconnection facilities required for the project	Based on the amount of the additional interconnection facilities required for the project

Application Review/Completeness Verification

Applicants should ensure that the Application Package is complete upon submission. An incomplete Application Package may be rejected and its time-stamp forfeited (box A4). The online system will track all completed applications with date/time stamps. Applicants which have been found to have an incomplete or otherwise improperly submitted Application Package will be notified and will not be eligible for the queue.

Queuing Procedure

For all completed Application Packages, Hawaiian Electric will assess each project relative to its potential impact on system reliability, the ability of the project to interconnect to the system in an expeditious manner, and assessment of the availability of sufficient distribution or transmission capacity to connect the renewable project to the Hawaiian Electric system as the primary criteria. The IO will review the determinations made by HECO before the Applicant is notified of the results. For Tier 3 projects, additional project viability criteria may also need to be assessed.

The assessments are proposed to be based on information submitted by the Applicant through a check list to be provided in the application form that all Applicants must complete. In addition, each application will undergo a review of the potential for a particular project to trigger an IRS. The use of a checklist is intended to provide clarity to Applicants on specific criteria for the queuing assessment.

The proposed assessment criteria will focus on projects that:

- are most ready to proceed;
- will not adversely impact system reliability;
- do not trigger interconnection reviews. Projects which are located in areas where sufficient circuit capacity exists are expected to be placed higher in the queue;
- Applicants have ownership or control of the site on which the project is to be constructed for the entire term of the Schedule FIT Agreement.

The IO will oversee the queuing process conducted by Hawaiian Electric. The IO will provide input with regard to Hawaiian Electric's evaluation and selection process for the FIT queue and the ranking of projects in the queue and may make recommendations for improvements at any stage in the process. The queue will be posted on Hawaiian Electric's website by the IO.

Interconnection Assessment and Review Process

FIT projects will be treated on an equal basis compared to other distributed generation projects in terms of interconnection and integration with the grid. The ability of each of the Companies' grid systems to integrate distributed generation projects will be subject to

the Reliability Standards that are being developed in this docket as well as subsequent policy decisions.

Consistent with Rule 14.H of the Companies' tariff, Hawaiian Electric will inform projects in the queue as to their status with regard to the ability to interconnect the project in an expeditious manner or if the application would trigger an IRS. If an IRS is required, Hawaiian Electric will also provide an estimate of the cost to conduct the IRS. The Applicant is required to pay the estimated cost of the study prior to initiation of the study.

Application to the FIT program can proceed via one of two paths with regard to interconnection requirements. For projects located in an area with available circuit capacity, the project will be assigned a place in the queue (box Q-1) and the Schedule FIT Agreement will be executed with the Applicant (box Q-6).

However, if an application triggers an IRS, there are several requirements and decision points for the Applicant (box A-6). As noted above, Hawaiian Electric will inform the Applicant if an IRS is required and provide an estimated cost to conduct the study. Should the Applicant decide not to proceed, Hawaiian Electric would refund any reservation deposit (if applicable) to the Applicant (box A-7). Should the Applicant decide to proceed with the study, they will be assigned a position in the queue (box Q-1). The Applicant will pay for the study (box Q-2) and Hawaiian Electric will complete the IRS and provide the results to the Applicant (box Q-3). Once the Applicant has reviewed the study with the Company, the Applicant can then decide to go forward with its project or terminate its Application (box Q4). Should the Applicant decide to terminate, Hawaiian Electric would refund the reservation deposit (if applicable). Should the Applicant decide to go forward, there would be a requirement to submit a reasonable non-refundable contribution towards the Company's investment in the Company-owned Interconnection Facilities based on the IRS (if required) and to pay for other reasonable and applicable interconnection costs. Should the project also require system upgrades, the Applicant will be required to post security or a performance bond (box Q5) for the amount of the facilities subject to refund once the project is completed in conformance with the Schedule FIT Agreement.

Queue Rules

Projects in the queue are subject to the following rules:

- Positions in the queue are not tradable. The queue position is established only for a specific project at a specific site. While an original Applicant could potentially sell its project, the new Applicant would retain the original queue position as long as the project is the same as originally submitted. That is, the project must be on the same site, apply the same technology and propose the same general size as originally submitted. Any deviations will be subject to elimination from the queue;

- An Applicant can terminate its position in the queue at any time. However, the Tier 2 Applicants will forfeit their reservation deposit if the project is terminated after the Applicant executes the Schedule FIT Agreement;

- After consultation with the IO, Hawaiian Electric can terminate the position of an Applicant in the queue if the Applicant fails to comply with the provisions in the Schedule FIT Agreement;

- In consultation with the IO, Hawaiian Electric will reserve the right to impose additional rules or procedures as necessary to ensure that the FIT program is proceeding in accordance with the Commission's Orders.

Execution of Schedule FIT Agreement

Applicants will already have been required to acknowledge acceptance of the Schedule FIT Agreement as a part of the application submittal process. Projects in the queue which do not require an IRS will have ten (10) business days from the date of notification that they are in the queue to execute the Schedule FIT Agreement.

If an IRS is required and the Applicant decides to go forward with the study, the Applicant will have ten (10) business days from the date the Applicant meets with the Company to review the results of the study to execute the Schedule FIT Agreement.

V. FIT Release Schedule

Hawaiian Electric concurs with the IO's recommendation for an incremental release of the FIT program that allows continual evaluation and opportunity for improvement at each stage. The Commission's D&O also allows existing NEM customers a one-time conversion to the FIT program. Accordingly, Hawaiian Electric proposes a phased implementation schedule that allows for the following sequence of activities. It is intended that the NEM conversions and initial releases of Tiers 1 through 3 would be implemented within the first year of the FIT Program. The following schedule is provided:

1. NEM conversions. One-time allowance for NEM conversions to FIT.

2. Initial Tier 1 Release. A release of an initial increment of Tier 1 queue capacity up to the 5% reservation for Tier 1 projects, less converted NEM projects, as stated in the Commission's Order. This initial release would allow the Company and the IO to evaluate the effectiveness of the application, interconnection review, and queuing processes and make adjustments as necessary.

3. Initial Tier 2 Release. A release of an initial amount of Tier 2 queue capacity. The timing and amount would be agreed to after consultation with the IO. Similar to the Initial Tier 1 release, this would allow the Company and the IO

to evaluate the effectiveness primarily of the interconnection review process and make adjustments as necessary. For Tier 2 projects, there is a higher likelihood of triggering interconnection reviews.

4. Subscription to Tier 1 and Tier 2. For both Tier 1 and Tier 2 the application process will be closed when the initial increment has been met. HECO and the IO will monitor the success of enrollment for the initial increment and the application process may be reopened for additional applications, up to the initial increment.

5. Initial Tier 3 Release. A release of an initial amount of Tier 3 queue capacity. The timing and amount would be agreed to after consultation with the IO. Similar to the prior releases, this would allow the Company and the IO to evaluate the effectiveness of the application, interconnection review, and queuing processes and make adjustments as necessary. Tier 3 projects are expected to trigger higher levels of interconnection reviews and project viability considerations.

6. Release of Subsequent Queue Capacities. The Company would determine which Tier or Tiers would then be designated for additional releases after consultation with the IO and consideration of system reliability, curtailment, and potential pent up demand in any Tier category. This could result in issuing a release of additional queue capacity in any single or all of the three of the Tiers.

VI. Reevaluation Periods

The queuing information, status of projects in the queue, and projects that have been completed will be provided to the Reliability Team on a regular basis for conducting reassessments.

As with any new process, there should be recognition that flexibility is necessary to make adjustments to account for process improvements and accounting for unforeseen circumstances. Hawaiian Electric intends to continually seek the perspective of the IO to assess if any changes or revisions to these procedures are appropriate in order to improve the effectiveness of the program in meeting its objectives.

VII. Conclusion

To provide insight into the development of appropriate FIT procedures for the Hawaiian Electric system, the Company has contacted FIT administrators and evaluated the "lessons learned" and experiences to date with existing FIT programs. Although most programs are in the early stages of development, insight from the program administrators has been valuable. Hawaiian Electric has attempted to incorporate these "lessons learned" from other FIT programs in the development of its queuing procedures.

In addition, Hawaiian Electric sought and received input from the IO as well as from interested parties through workshops designed to solicit input. Hawaiian Electric expects that these workshops will continue to provide valuable feedback and insight.

Merrimack and Hawaiian Electric agree with the IO's recommendation to consider a "walk before you run" approach to roll-out of the FIT programs. Accordingly, Hawaiian Electric will be working with the IO to prepare a scheduled roll-out of the different Tiers that allows for incremental additions with adequate management to gauge effectiveness and allow for immediate process improvements if they become necessary.

Exhibit I
Feed-In Tariff Program Matrix - Combined

Important Characteristics	Ontario Power Authority Feed-in Tariff Program	Gainesville Regional Utilities (Solar Feed-in Tariff)	Vermont FIT Program	California
I. Program Summary and Overview				
Program Overview	The Feed-in tariff program was enabled by the Green Energy and Green Economy Act of 2009. The Ontario Power Authority (OPA) is responsible to implementing the FIT program. Ontario's FIT Program is North America's first comprehensive guaranteed pricing structure for renewable energy production. The program provides a way to contract for renewable energy generation. It includes standardized program rules, prices and contracts for anyone interested in developing a qualifying renewable energy project. Prices are designed to cover project costs and allow for a reasonable return on investment over the contract term. The FIT program has replaced the Standard Offer Program which has been in place since 2006.	The intent of the solar Feed-in Tariff is to provide a standard offer (non-negotiated) contract to those wishing to install solar PV generation and sell the energy to GRU. GRU will buy 100% of the net energy produced at a fixed rate for a contract period of 20 years. The fixed rate that is paid depends on the year and type of project that is put into service and follows the schedule in Chapter 27 of the City ordinance.	The Vermont program was established by statute (30 V.S.A. Sections 8002 to 8005). In summary the Act: • Sets standard offer prices for different renewable resources • Sets capacity of 2.2 MW per unit, with a ceiling of 50 MW • Sets pricing criteria and default interim pricing • Establishes a purchasing agent for the state, who in turn distributes the energy to the utilities – SPEED Facilitator. • By January 15, 2010 the Board must set the prices to be paid under the standard offer In Docket No. 7533 the Vermont Public Service Board issued an Order on September 30, 2009 Establishing a Standard-Offer Program for Qualifying SPEED Resources (Qualifying Sustainably Priced Energy Enterprise Development Resources). This Docket was designed to resolve all necessary implementation issues not addressed in Docket No. 7523.	Under California's Assembly Bill (AB) 1969 and Senate Bill (SB) 380, as implemented by the California Public Utilities Commission (CPUC), the California IOU's will purchase power from retail customers who own and operate an eligible renewable generator with a total effective generation capacity of not more than 1.5 MW. The CPUC envisioned a simple and streamlined mechanism for certain generators to sell electricity to the utility without complex negotiations and delays. The Program is called the CREST Program In 2006, the California legislature ordered the development of tariffs for renewable generation installed by public water and wastewater agencies. The CPUC extended these tariffs to all customers who install renewable generation up to 1.5 MW. In 2008, the California Legislature passed SB 380, which consolidated the two tariffs (SCE's former WATER and CREST programs) into a single CREST program that works for all SCE customers.

Exhibit 1
Feed-In Tariff Program Matrix - Combined

Applicability of Rates	The FIT program is divided into two streams FIT and micro FIT	In Chapter 27 (Appendix A) there at two FIT rates: (1) a building or pavement mounted system rate and (2) a free standing "Greenfield" system rate	The Vermont Energy Act of 2009 established a standard offer mechanism for potential project developers seeking a market for energy produced from SPEED resources with a capacity of 2.2 MW or less. The Act establishes default prices for the standard offer for *different technologies*, calculated to allow developers to recover their costs plus a return on their investment.	Once a qualifying customer and SCE execute a power purchase agreement (PPA) and the customer interconnects to SCE's grid. SCE will pay for either the total or the excess energy the customer generates (customer's choice). Two agreements are available: CREST Full Buy/Sell, and CREST Excess. For a customer that chooses the full buy/sell agreement, the utility buys all the generation (net of station use) from the renewable generator and sells the customer all the electricity used at the site under the existing tariff. For a customer that chooses the excess agreement, the customer uses the generated electricity first to meet its on-site electrical load, and the utility purchases any power that is exported to the grid.
Participant Requirements	Wind and solar projects must include a minimum amount of goods and services that come from Ontario. Also, small projects connected to *the distribution system are classified* as capacity allocation exempt projects. The FIT program also contains incentives designed to encourage Aboriginal and community-based projects. Three security payments are required under the FIT program: • At the time of application • At the time of contract issuance • Before commercial operations.	A signed an executed SEPA (Solar Energy Purchase Agreement) is required for participation in the FIT program. Execution requires that the system design be *approved by the GRU Energy* Delivery Department before it can be executed.		Eligible customers must apply to the California Energy Commission for certification. The current list of eligible renewables is found in the *Renewables Portfolio Standard* Eligibility Guidebook.

Exhibit 1
Feed-In Tariff Program Matrix - Combined

Eligibility	The FIT program is designed for projects over 10 kW.
	
	Qualifying renewable fuel sources include:
	• Bioenergy
	  o Biogas
	  o Biomass
	  o Landfill gas
	• Solar Photovoltaic (PV) – not greater than 10 MW
	• Waterpower – up to 50 MW
	• Wind
	
	Incremental projects are eligible, provided they use the same meter as the existing facility. However, only the generation attributed to incremental projects will be eligible for FIT program payments. To qualify as an incremental project, you must meet three additional eligibility requirements:
	• You must be the owner of the existing renewable energy project
	• The incremental project must use the same technology
	• The incremental project must use the same connection and metering
		To be eligible to participate, a solar PV project must lie within GRU's electric service territory, have a capacity reserved for the project, and be approved byGRU engineering staff. Any system that has previously received a rebate or entered into a net metering program is not eligible.	Under the statute, standard offer is available for solar, wind, farm methane, landfill gas, hydropower, and biomass resources.
			
			Projects many vary in size up to 2.2 MW installations.
				The renewable generating facility power rating (net of station load) must be not more than 1.5 MW.
				
				The customer may select a term of 10, 15, or 20 years.
				
				The price for power was prescribed to be the Market Referent Price, a per-Kwh price that is determined periodically by the CPUC. The date the contract is signed by both the customer and SCE will determine which MPR table is applicable. The energy price will be fixed (no escalation) at the value in that table that corresponds with the actual on-line year and the term of the agreement selected by the customer. The MPR is included in the tariff.
				
				Service under the CREST tariff is on a first-come-first-served basis. The tariff will be closed to utility customers once the combined rated generating capacity of eligible renewable generating facilities within the utility service territory reaches its allocated cap.
				
				Customers cannot be on a net metering tariff and still sign a PPA for the same generator. Customers cannot split exports from a single generator between net metering and the PPA. However, customers with multiple generators could be on both Schedule NEM and Schedule CREST, provided the appropriate metering is in place to enable CREST generation to be accurately determined.

Experiences to Date	There were a number of lessons learned with regard to the Standard Offer Program that has influenced the design of the FIT program: • The queue was established for connection capacity (i.e. interconnection access). Connection capacity was the key issue. Valuable connection capacity was held by project sponsors that were not likely to develop projects. Some queue positions were actually sold • Without some form of security deposits proponents had a free option to remain in the queue • The objectives of the policy makers for the program were not clearly articulated and were not reflected in program design. • Program was way over subscribed – over 15,000 MW. Expectation that prices set too high. Revisions to the program through FIT have addressed some of these issues: • The evaluation of the connection capacity will occur upfront before a contract is awarded. Eliminates hoarding of connection capacity • Development security is required • Objectives of the policy makers more clearly articulated.		The Board issued interim pricing on September 15, 2009. Applications were received starting on October 19, 2009 and the solar and biomass programs were over-subscribed on the first day. In response, the Board conducted a lottery to determine which projects would get the standard offer prices. The 50 MW ceiling has been fully subscribed.	Few projects have come to fruition via the CREST program. Also, the cap associated with the queue for each utility has not come close to being reached. The primary issue for limiting interest in the project is the use of the MPR as the pricing mechanism. The MPR is based on the cost of building and operating a gas-fired combined cycle facility. The cost of renewable projects has generally exceeded this cost over the past few years.

Exhibit 1
Feed-In Tariff Program Matrix - Combined

II. Guidelines/Procedures for the Queue Process				
Queue Requirements	Applications to the FIT program will be prioritized according to their estimated date of commercial operations, with the earliest estimated commercial operation dates getting to priority for connection capacity. The program launch rules do not apply to projects that are defined as capacity allocation-exempt projects. These projects proceed directly to contract.	*Queue is "first come first serve" process*	*One of the primary issues* before the Board was the establishment of a mechanism to determine which projects would be entitled to the standard offer. Discussions centered around a queue process. The existence of a program ceiling and the need for a queue to address that ceiling were assumed in the comments. Based on the issues identified in "Capacity Limits/Amounts" below, two primary options for addressing the uncertainty are basing eligibility on: 1. Which project applies first (assuming the project application is complete and meets relevant requirements) 2. Which project is commissioned first Under the first option the project will remain in the queue as long as it continues to meet all applicable requirements. Under the second option, standard offer is only provided to the first 50 MW that are actually commissioned. The developer would not know if it would receive the standard offer price until the project is complete.	*Service under the CREST Program* Schedule is on a first-come-first-served basis and will be closed to new customers once the total rated generating capacity of Eligible Generating facilities within the utility service territory reaches the *allocated limit of the 500 MW* statewide cap. For example, SCE's requirement is 247.69 MW.

Exhibit 1
Feed-In Tariff Program Matrix - Combined

			Given the developer's need for certainty and an orderly process to determine eligibility for standard offer, the Board concluded that the establishment of a queue is both necessary and appropriate.	
Queue Manager	Ontario Power Authority	Company personnel	SPEED Facilitator	The Utility
Capacity Limits/Amounts	No overall limit. There are size limits for technologies.	A capacity limit of 4 MW (DC) per year was instituted for each calendar year the program is active. Of the 4 MW total, 1 MW of ground-mounted "Greenfield" systems is allowed in the queue for any particular year.	Standard offers shall be available until the cumulative plant capacity of all such resources commissioned in the state that have accepted a standard offer equals or exceeds 50 MW. The Act states that the standard offer is available until 50 MW are commissioned. But since it takes time to develop and construct projects, there are issues associated with the success rate of projects, potentially more projects in the queue than is required, more than 50 MW accepting the standard offer, etc. As a result, the Board interpreted the rule to 50 MW is intended to be a cap. This is a key conclusion and effects the queuing process.	The total program amount is 500 MW. Each utility is allocated a share. For example, SCE has an allocated cap of 247.69 MW

Guidelines for Managing the Application Process		Applications can be submitted at any time. Once a project application is accepted as complete, with all required *forms and documents* submitted, the project is assigned a capacity reservation on a first-come, first-served basis. The assignment is called the queue. *In the event that all of the* capacity for the current year becomes assigned, projects will be assigned capacity for the following years, subject to availability. *Once a project has been* assigned a place in the queue, the project owner will be notified in writing regarding the successful acceptance of the application and the project's position in the queue. Should any project be dropped from the queue, the Applicant for the project next in line shall be contacted and given the option to have their project moved up to fill the available slot. If an applicant does not wish to have a project advanced to an earlier queue position, the project will remain at the same point of time in the queue. The available slot will then be offered to the next project in the queue in a similar fashion, until the available slot is filled.	A developer submits an application to the SPEED Facilitator, who would manage the queue. After processing the *application*, the SPEED Facilitator would inform the developer whether there is capacity remaining in the queue for that project, and therefore whether the project would be eligible for the standard offer. If *there is sufficient capacity*, the plant owner would sign the standard contract, thereby accepting the standard offer, with the prices, terms, benefits, and obligations that entails. *In order to ensure that the queue* does not simply become a placeholder for potential developers, the draft standard contract contains certain filing requirements to encourage rapid development of projects, as well as milestones that developers must meet to stay in the queue. Any developer that applies to the queue after the 50 MW is full could be placed on a waiting list and could become eligible for the standard offer if a developer in the queue voluntarily withdraws or is removed from the queue for failure to meet the required milestones, or for other reasons set forth in the standard contract.	In its Decision, the CPUC issued a number of directives regarding management of the queue. First, the CPUC agreed with respondents that *the law is clear, the offer is on a* first-come-first-served basis. The date of execution of the standard contract will dictate the "first-come" requirement. Third, each utility must maintain the queue by individual project or proposal. In this way, the *ranking of the queue is not* assignable or tradable with another developer or project. Ranking within the queue should not itself have a market value. The CPUC did not intend the queue to become something that creates or eliminates *value, is subject to speculative use* by customers and projects, and is separately tradable for gain or loss. Respondents shall maintain the queue in a manner consistent with this intention.

Queue Expiration Periods		Three deadlines exist in the capacity queue designed to expedite active projects and eliminate stalled and abandoned projects from the queue. This allows the available capacity to be re-allocated in a fair and efficient manner if an applicant is unable to complete a project in a timely manner. Failure to meet any of these deadlines is sufficient cause for the project to be disqualified and purged from the capacity queue. In order to have the project reconsidered for participation in the FIT program, a new application must be submitted. The new application will be subject to the same rules and processes applicable to all applications, and, specifically, will not receive preferential placement in the queue.	Since the Board interprets the Act to mean that only projects that actually produce power receive a standard offer, the standard contract contains milestone provisions that must be met to stay in the queue and financial incentives, beyond the standard offer prices themselves, to rapidly commission projects.	The queue will be closed when the allocation is reached. Certain obligations under the tariff cease relative to new subscribers. That is, the tariff is closed with respect to new customers, and respondents need neither subscribe additional customers under the tariff nor execute additional standard contracts. If a project within the allocation terminates for any reason or the total installed capacity falls below respondent's proportionate share, the next project in the queue should be notified and given the option to proceed.
Discussion Surrounding the Queuing Process		Only one queue given solar projects only	One of the issues in Vermont was the potential division of the queue to ensure the standard offer program included a diversity of qualifying SPEED resources with respect to technology, and potentially project size. There was a concern raised by the commenting parties that projects that are easier to site and plan (such as solar) could enter the queue more quickly and freeze out other resources. The options address by the Subgroup on contracts included the following:	The CPUC addressed the options for establishing the queuing mechanism in its Order. The Order advocated the use of first-come-first served queuing process. This will promote an orderly process for initial subscription and financing of projects, including certainty that the output will be purchased when the project subsequently becomes operational. Execution of the contract here means when signed by the customer, since this is a standard contract made available by the utility. The alternative (of developing the queue using on-line date or first-

			1. Allow only a certain portion of the 50 MW to be filled before a set date; 2. Open the entire 50 MW but require a percentage cap on any single technology (i.e. no single technology could take up more than 25% of the queue space); 3. Develop a comprehensive allocation by technology and/or project size for the queue; 4. Make no provisions for dividing the queue. The SubGroup could not reach resolution on this issue. The Board therefore concluded that the most effective mechanism to address the resource diversity issue is a cap on the amount of any one technology in the queue. The Board directed the SPEED Facilitator to implement a mechanism to ensure that no one technology fills more than 25% of the queue. This will retain substantial flexibility and encourage rapid deployment, while still ensuring that some diversity exists. The 25% technology cap will apply for six months; the Board will revisit this mechanism no later than that time, unless the SPEED Facilitator informs the Board that earlier reevaluation is necessary.	served) would increase the incentive for a project to come on-line quickly, and stimulate competition between projects. It would also increase uncertainty and risk relative to the purchase of the output. The increased uncertainty and risk may prevent the development of some otherwise reasonable projects. There are, however, other ways to ensure projects are brought on-line timely, which are addressed further below (e.g. the standard contract expires unless the project becomes operational within 18 months, or the project obtains an extension).

Management of the Queue –Contract Milestones			The Board concluded that it was appropriate to include some limited milestones in the contract. The existence of the 50 MW ceiling creates a limit on the number of projects that can be developed. Assuming that the queue is filled, in order to ensure that we meet the statutory directive to encourage rapid deployment of qualifying SPEED resources there must be a mechanism to prevent projects from holding a space in the queue indefinitely, thereby depriving other resources the opportunity to take the standard offer. It is therefore appropriate to include milestones in the contract.	
III. Queuing Process - Steps				
Summary of steps required to qualify and remain qualified for the queue position	To Apply for a FIT Contract the following steps are required: (1) Register for the FIT program on the OPA FIT website (2) Before beginning the application process, you must contact the local distribution company (and/or transmitter) in the location of the project to determine whether a connection (including metering configuration and requirements) can be made from your site to the system. During the discussion also review the potential connection costs for which you would be responsible. (3) Submit the Application (4) Connection Availability Assessment – part of the application review process is to determine whether there is	A seller must complete the following nine steps in order to remain qualified for the Solar FIT program and before receiving any payment for energy produced. These include: (1) Complete application submittal and acceptance; (2) Receive Engineering approval of the project; (3) Execute the SEPA; (4) Meet system upgrade payment obligations; (5) Purchase all equipment within 60 days of SEPA execution; (6) Complete project construction within 120 days of SEPA execution; (7) Pass all applicable code enforcement inspections;	The following process is required for application to the program: (1) Submit application included on the website of SPEED (www.vermontspeed.com) (2) Receive automatic email response indicating the application has been received (3) The application will be reviewed to ensure it is complete and accurate. The application will receive a time/date stamp and place you in a "queue" to receive a standard offer contract. The queue will be established on a "first come, first served" basis.	The steps that should be taken when applying for a CREST contract includes: (1) Download the tariffs, contracts, and interconnection application from the utility website; (2) Obtain site control; (3) Open a utility retail account at the site; (4) Complete the design for the generating facility, including equipment specifications, single line diagrams stamped by a licensed engineer, site plans and maps. This is input to an appendix in the CREST agreement; (5) Obtain CEC pre-certification that the facility is an Eligible Renewable Resource. (6) Download and submit an interconnection application

	sufficient transmission and distribution capacity available for your project at the proposed connection point. When there is sufficient capacity available to connect your project you will be offered a contract. When connection availability is insufficient to connect your project, the OPA will work with the IESO, transmitters and distributors as appropriate to determine the transmission and distribution upgrades required. As part of the process, the OPA will assess relevant applications in the area that require the same upgrades and will assess whether the upgrades are justifiable. The upgrades that at justifiable will be included in transmission and distribution expansion plans. A FIT contract will be offered once these upgrades have received required approvals and the OPA is reasonably certain they will be completed by your milestone date for commercial operations. (5) Contract Offer and Acceptance – The sponsor will be notified of your FIT contract offer when the OPA determines there is, or will be, sufficient connection availability on the transmission and/or distribution systems to connect your project by its milestone date for commercial operations. You will have 10 business days to	(8) Pass GRU system audit and be interconnected to the distribution system; (9) Provide documentation of final system cost and capacity. Failure to complete any step within its associated deadline is cause for the immediate dismissal and termination of the application. Such a termination will forfeit the project's place in the capacity queue. However, the specified expiration periods may be extended under certain conditions.	If the queue or certain technology caps established by the Vermont Public Service Board are filled on the first business day a lottery will be utilized to determine a project's position in the queue. (4) At this time the Board has placed a 6 month interim technology cap on the queue equal to 25% of the 50 MW cap. That is, no one technology can fill more than 25% (12.5 MW) of the queue for the 6 months the interim cap is in effect. (5) Within 72 hours of the opening of the application process the SPEED facilitator will inform the Board of the status of the queue. Should either the total program cap of 50 MW or any one of the 6 month interim caps have been exceeded, projects will be given a randomly assigned number which will determine the projects that will receive a space in the queue. (6) Within 5 business days of application submittal or if a cap has been exceeded and a lottery used to determine queue status, within about 5 days of the lottery, you will be notified by email that your application has	to the utility and work with the utility through the system impact study, facilities study, etc. to complete an • interconnection agreement with the utility for the generating facility – for SCE this is called the Interconnection Facilities Financing and Ownership Agreement. This is input to Appendix B of SCE's CREST Agreement; (7) Be prepared to complete construction of the generating facility and achieve Initial Operation within 18 months of the CREST agreement execution date; (8) Fill out the draft CREST agreement and submit to the utility. Work with the utility to make the agreement 100% correct, and execute the CREST agreement

	accept the FIT contract and submit the required security payment. If not provided the sponsor will lose the application fee and will be required to re-submit the application.		been accepted. (7) If selected for the queue, the bidder must return within 5 business days documentation of site control, a check for $200 administrative fee, and $10/kW refundable deposit. The applicant must demonstrate that it has obtained site control by the date the application was submitted. (8) Assuming the application is in order, within 2 weeks the SPEED Facilitator will send a standard contract for signature. The contract is a "Take it or Leave it" contract. The SPEED Facilitator is not authorized to make alterations to the contract.	
Application Submittal	The Application Package must include the following: • 2 copies of the application form and all supporting documents • 1 electronic version on CD • Application fee • Application security • Authorization letter • Evidence of site access rights • Evidence documenting the Aboriginal participation level • Evidence documenting the community participation level	An Application is not considered complete until all forms and documents have been submitted to the **Solar Program Coordinator or designee, who will time stamp the application under acceptance and send a letter of acceptance to the applicant.** Documents required for a complete application submittal include: 1. Completed "Exhibit I" (Section One) and "Exhibit IV" of Attachment "A" of the SEPA, including a sketch of the proposed system.		

		2. Written documentation from the owner of the property where the system is to be installed that verifies that the seller has rights to use the property for installation. If the property is owned by the seller, the seller must provide proof of ownership. 3. Copy of Insurance Policy 4. Completed W9 tax form 5. Completed GRU vendor form 6. Proof of installer qualifications, including appropriate licenses and certifications, as required by Attachment A of the SEPA. Upon acceptance of the completed submittal packet, the Seller's project is placed in the capacity queue.		
Additional Guidelines		Upon acceptance of the submitted complete application packet, the Solar Program Coordinator will notify the applicant in writing of their acceptance and provide them with information for the appropriate contact in the Engineering section of the Energy Delivery Department. The GRU Engineering contact will review the applicant's project for compatibility with GRU's distribution system. Engineering will identify any distribution system upgrades		

		required of the applicant's project. If these upgrades are identified, the applicant will receive an invoice listing equipment upgrades and the estimated costs associated with their implementation along with the approval of Attachment A of the SEPA. It is the responsibility of the project applicant to pay the actual costs for any GRU distribution system upgrades needed to accommodate the project. No modifications to GRU's electrical distribution system will begin until these costs are paid in advance.		
Administrative Fee	Application fee of $.50/kW with a minimum of $500 and a maximum of $5,000.	Upon Engineering approval and the applicant's agreement to pay any invoiced costs, the SEPA will be signed and executed by both parties. Once the SEPA is executed the applicant has two deadlines to meet: 1. The Applicant has 60 days from the date of execution of SEPA to commit to purchase, by contract, purchase order or payment the equipment needed to construct the Facility. If documentation is not provided to the Solar Program Coordinator, the SEPA may be terminated. There is time extension allowed under extenuating circumstances. 2. The applicant has 120		

		days from the date of SEPA execution to complete the construction of the project and enter into operation. Failure to do so will result in termination of the project. A time extension may be granted.		
Security or Deposit	Several payments are due to OPA at various stages of the application and contracting processes: (1) There is an application fee of $.50/kW (with a minimum of $500 and a maximum of $5,000). Application security is $20/kW for solar PV and $10/kW for others. (2) Once the contract is issued, first completion and performance security is due within 10 days of contract offer in the amount of $50/kW for solar and $20/kW for all others. The security is returned once the project reaches commercial operations. (3) Once the Notice to Proceed is issued, Second Completion and Performance Security is due. This security is $25/kW for solar and $10/kW for all others.	Once the SEPA has been signed, GRU will undertake any system upgrades that were identified in the Engineering review. It is the obligation of the applicant to pay any outstanding cost obligations related to the upgrade before the project may become operational.		
Project Costs		All project equipment must be purchased within 60 days after contract execution. In this context, purchase is defined as committing to acquire the facilities by contract, purchase order or payment.		

Contract Issues	The contract sets out project-specific information, milestones to reach commercial operations and the contract holders rights and obligations. Some of the provisions include: • Contract term is 20 years • From the time the contract is executed commercial operations must be reached within: o 3 years for onshore wind, solar and bioenergy o 4 years for offshore wind o 5 years for hydro • The OPA may terminate the contract if the project does not generate electricity for 2 consecutive years	The facility is fully constructed, ready to operate, and ready for codes enforcement inspection and GRU system audit		
		The applicant is responsible for pulling all necessary permits and scheduling inspections applicable to the project. These must be completed prior to GRU's facility audit and meter installation.		
		Once the PV project is completed, the applicant must contact the GRU Solar Program coordinator to schedule the acceptance test. GRU Energy Delivery staff will inspect the project to verify compliance with all terms of the interconnection requirements stated in the SEPA. Once the system is accepted by GRU, a revenue grade meter will then be installed by GRU, and the system will be connected to the electric distribution system.		

		Pursuant to SEPA Article 2.6 documentation of the final system cost and capacity of the installed facility must be provided before any payments will be made		
		(1) A change in location, a material increase in the installed capacity, or a change in project owners before completion shall constitute an abandonment of the project. (2) Engineering design changes are permitted as long as the installed capacity is not materially increased. (3) Applications will be reviewed for completion in the order they are received. Incomplete applications will not be formally accepted or time-stamped, nor will capacity be reserved for them, until such time as they become complete. (4) Completed applications will be accepted in chronological order and capacity in the queue reserved on a "first-come, first-serve" basis. (5) Payments under the FIT will be made monthly to the Seller (6) The SEPA is transferable after project completion and can be terminated by the Seller at any time if they choose to do so for any reason.		

Exhibit 1
Feed-In Tariff Program Matrix - Combined

		(7) The physical size and location of the project, and the project's point of interconnection to gRU's distribution system, may not be altered from that indicated in the SEPA without voiding the contract. (8) A separate unique meter will be put in place for every project. GRU will provide the meter and read it monthly subject to a monthly customer charge. (9) All environmental attributes of the solar energy (carbon credits, renewable energy credits, etc.) are purchased with the energy and become the property of GRU.		
			The Board concluded that an administrative fee for project developers is appropriate. The fee identified was $200.	
			Also, the Board indicated that a refundable deposit calculated on a per kW basis will provide an incentive for developers to commission projects so that the deposit may be returned.	
			The Board requires that since projects are being subsidized by ratepayers they are required to provide information on the costs of their projects. This will also assist in the biennial statutorily required reassessment of the standard-offer prices. Accordingly, the Board included such a provision in the standard contract.	

Hawaiian Electric Company, Inc.

Feed-In Tariff
Docket No. 2008-0273

Approach to Development of FIT Queuing Procedures

Technical Workshop
November 19, 2009

HEI

Hawaiian Electric Company, Inc.

Objectives of Workshop

- Commission's Decision & Order
- Review schedule
- Provide status of current activities
- Share overview of approach to developing queuing procedures
- Solicit feedback

HEI

Hawaiian Electric Company, Inc.

Commission's D&O

Queuing procedures should:

- "...include project development milestones to advance in the queue and deposits for applicants."
- "...include a mechanism for applicants to apply for extensions for the amount of time needed to meet project development milestones prior to dropping from the queue..."
- "...mitigate the added risks associated with the required deposits but maintain incentive for only viable projects to apply for interconnection studies."

D&O pages 92-93

Hawaiian Electric Company, Inc.

Commission's D&O

Independent Third Party Oversight and Monitoring

- "...similar to the Independent Observer in the commission's Competitive Bidding Framework, should oversee the queuing process for FIT projects."
- "...assist in developing the queuing process..."
- "...inform parties of the queue length and their status in it."
- "...monitor how the utility administers the queue."
- Refers to Competitive Bidding Framework for identification of candidate Independent Observers and process for selection and contracting.

D&O pages 93-94

Hawaiian Electric Company, Inc.

Schedule (related to Queuing)

- ✓ October 2009 – Identify qualified IO candidates
- ✓ November 13, 2009 – File qualified IO candidate list for Commission review and approval
- ✓ November 18, 2009 – Comments on IO list
- November 19, 2009 – Technical Session
- Commission approval of IO list
- One month from above - File contract for IO
- One week from above - Comments on IO contract
- Commission approval of IO contract

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Hawaiian Electric Company, Inc.

Schedule (related to Queuing)

- February 1, 2010 – Filing of Queuing and Interconnection Procedures
- February 11, 2010 – Parties submit information requests
- February 18, 2010 – Parties submit responses to information requests
- February 22, 2010 – Parties comments on queuing and interconnection procedures

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Hawaiian Electric Company, Inc.

Status of Retaining an Independent Observer

- ✓ October 2009 – Identify qualified IO candidates
- ✓ November 13, 2009 – File qualified IO candidate list for Commission review and approval
- ✓ November 18, 2009 – Deadline for parties to submit comments
  - Comments received from HDA, HREA, and Blue Planet
- Commission approval of IO list
- One month from above - File contract for IO
- One week from above - Comments on IO contract
- Commission approval of IO contract

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Hawaiian Electric Company, Inc.

Overview of Process for Developing FIT Queuing Procedures

- Research queuing procedures in FIT programs in other jurisdictions
- Identify key concepts for queuing procedures for Hawaii FIT program
  - Coordination of queuing approach to other contracting mechanisms besides FIT
- Solicit feedback from parties
- Develop procedures with assistance of IO
- File no later than February 1, 2010

HEI

Hawaiian Electric Company, Inc.

Development of FIT Queuing Procedures

- With assistance from Merrimack Energy, currently researching queuing procedures in FIT programs in other jurisdictions
  - Ontario
  - Florida (Gainesville)
  - Vermont
  - California
  - Wisconsin
  - Oregon
  - Washington State
  - Michigan
  - Others

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Hawaiian Electric Company, Inc.

Ontario Power Authority

- Queuing prioritized by commercial operation date
- No overall cap, limit on sizes for technologies
- Queuing Procedure
  - Register for FIT on OPA program website
  - Contact local distribution company for interconnection information
  - Submit application with administrative fee ($/kw based - $500 min and $5,000 max)
  - Requires security deposits at several stages
  - Connection Availability Assessment – review whether there is sufficient transmission or distribution capacity; evaluate upgrades if necessary; considers effect of multiple projects in same area
  - Contract Offer and Acceptance – contingent upon previous steps, 10 days to accept and submit security payment

HEI

Hawaiian Electric Company, Inc.

Gainesville Regional Utilities

- Solar only
- First come, first served
- When cap exceeded, assign to following year
- Queuing Procedure
  - Submit complete application
  - Receive Engineering approval from GRU
  - Execute the Solar Energy Purchase Agreement (SEPA)
  - Meet system upgrade payment obligations
  - Purchase all equipment within 60 days of SEPA execution
  - Complete construction within 120 days of SEPA execution
  - Pass inspections
  - Pass GRU audit
  - Provide documentation on final system cost and capacity

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Vermont

- Still new
- First come, first served
- 50 MW cap, projects no larger than 2.2 MW
- Queuing Procedure
  - Submit complete application
  - Receive acknowledgement
  - Completeness review
  - Assign place in queue
  - If selected, must provide site control, fee, and deposit
  - Take it or Leave it contract

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"First Ready" and "First Come"

- First Ready, First to Connect
  - Projects placed in queue only when ready to interconnect
  - Developer incurs project development risk without assurance of place in queue
- First Come, First Served
  - Project is placed in queue when application is received
  - Developer must meet project development milestones or risk losing place in queue

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D&O language with respect to First Ready, First Served

"...The commission considered having the caps fill when projects receive final regulatory approval or actually interconnect. Such a policy would increase project risks because developers could be midway through construction or have already paid for an IRS, only to find that the cap has been filled. This risk could discourage development. However, to discourage frivolous projects from filling the caps, a significant application fee should be required."

D&O page 58

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Queuing Approach

Consider Hybrid Approach

- Find best of both approaches
- Projects that are at a more complete and viable status should have priority in the queue
- Projects must maintain that viability or risk losing their position in the queue
  - Notwithstanding providing a mechanism for extensions

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Key Concepts for Consideration in Establishing a FIT Queuing Procedure for Hawaii

- Anticipate more applications than space available in queue
- Significant fee (per D&O)
- Require "complete" application
- Conduct project assessment for queuing priority
  - Smaller Tier 1 and 2 projects likely to be driven by interconnection capability and reliability
  - Larger Tier 3 projects will likely have a more rigorous assessment
- Coordinate with other contracting mechanisms
- Transparency of queue status
- Require posting security deposits
- Meet project development milestones or lose place in queue
  - Allow mechanism to apply for extension

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Workshop Feedback Discussion

- How should application fee be set?
- What should constitute a "complete" application?
- How should a project be prioritized in the queue?
- What kind and amount of security deposits should be required?
- What project development milestones should be required and what should the mechanism be to apply for extension?

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Workshop Feedback Discussion

- How should application fee be set?
  - Fee based on $/kw
  - Different for Tiers 1 and 2?
  - What amount would be appropriate to discourage frivolous projects, but not create a barrier to entry for smaller developers?

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Workshop Feedback Discussion

- What should constitute a "complete" application?
  - Payment of fee
  - Project identification information (commercial operation date, technology, size, etc.)
  - Site commitment
  - Evidence of financing commitment
  - Permitting assessment and project schedule
  - Background and experience of development partners and contractual obligations to project
  - Technical information for operational assessment, system impacts, and interconnection
  - Other?

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Workshop Feedback Discussion

- How should a project be prioritized in the queue?
  - Continue research
  - Review feedback
  - Work with the Independent Observer
  - Review each complete application and conduct prioritization assessment
  - Submit proposed queue to the Independent Observer for review and concurrence

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Workshop Feedback Discussion

- What kind and amount of security deposits should be required?
  - Review other jurisdictions
  - What types of deposits should we consider for Hawaii FIT?

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Workshop Feedback Discussion

- What project development milestones should be required and what should the mechanism be to apply for extension?
  - Project permitting and approvals
  - Site commitment
  - Status of interconnection
  - Major equipment commitments
  - Return signed contract
  - Develop mechanism for Extension Request (standard form?) and process for evaluation with IO
  - Commercial operation date

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Workshop Feedback Discussion

Any other feedback or comments?

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Next Steps

- Await Commission approval of IO list
- Select Independent Observer
- Submit contract for approval within one month from PUC approval of IO list
- Review information to date and feedback from Technical Workshop with IO
- Work with IO to develop queuing procedures and monitoring process
- Look at ways to coordinate queuing with other contracting mechanisms
- IO to develop transparent method for informing applicants of queue length and status
- File queuing procedures for Tier 1 and 2 projects no later than February 1, 2010

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Thank You

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Feed-In Tariff
Docket No. 2008-0273

Draft
FIT Queuing Procedures

Technical Workshop No. 2
January 19, 2010

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Agenda

- Welcome
- Updates since November workshop
- Review Draft Queuing Procedure Flow Charts
- Discussion and Feedback

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"Strawman" Process

- Researched queuing procedures in other jurisdictions
  - Ontario, Vermont, Gainesville, Midwest ISO, CAISO
  - Conducted telephone discussions with administrators from these programs
  - Examined First Come First Served and First Ready, First Served
- Reviewed feedback from parties in workshop held in November 2009
- Examined other models and prepared "strawman" for Hawaii program
- "Strawman" included aspects from Vermont, Ontario, and California. Also incorporated recommendations from other FIT Administrators.

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Queuing Across Contract Mechanisms

- Still in process
- Initial focus has been on developing queuing procedures for FIT Tier 1 and 2
- Targeting having these broader procedures to coincide with Tier 3 filings

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Independent Observer

- Harry Judd (Accion) providing services as Independent Observer in advance of Commission's approval
- Desire to keep moving forward
- Reviewed "strawman" and provided comments and suggestions

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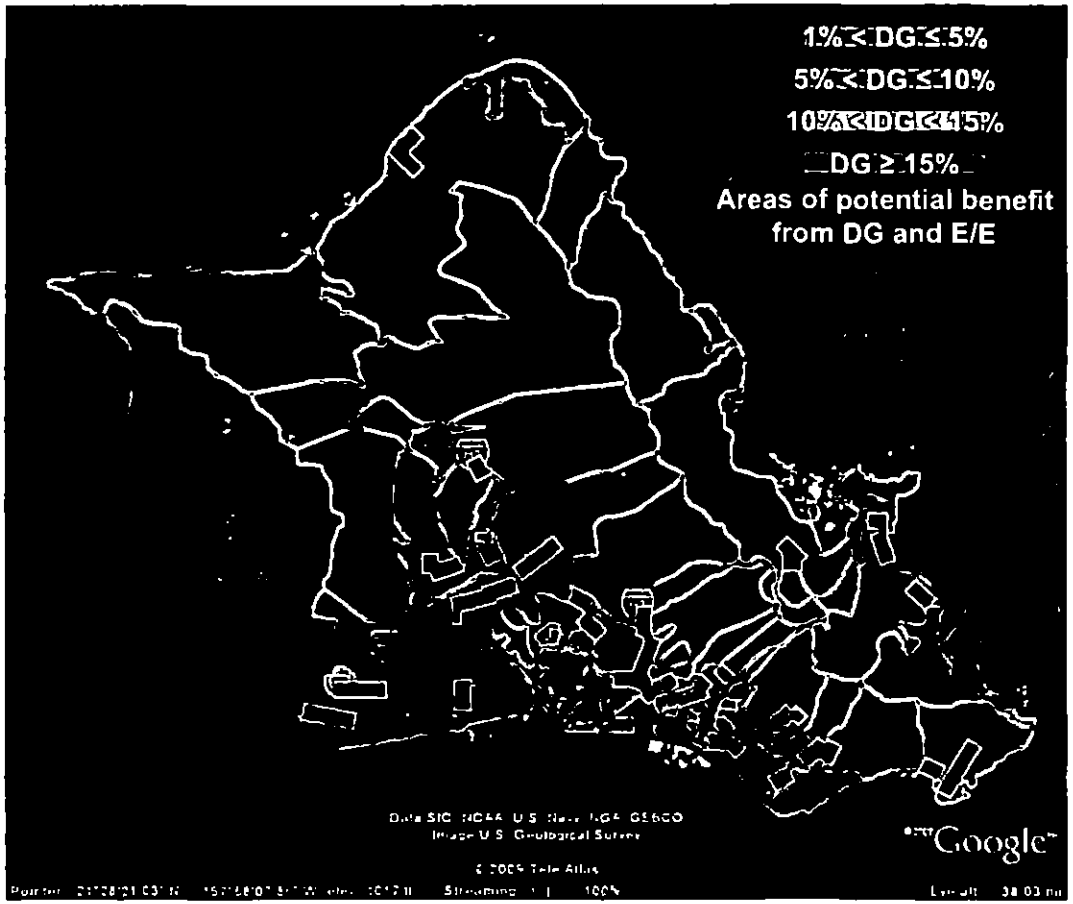
Locational Value Maps – For Illustrative Purposes Only



heco.com /Renewable Energy/Clean Energy Scenario Planning

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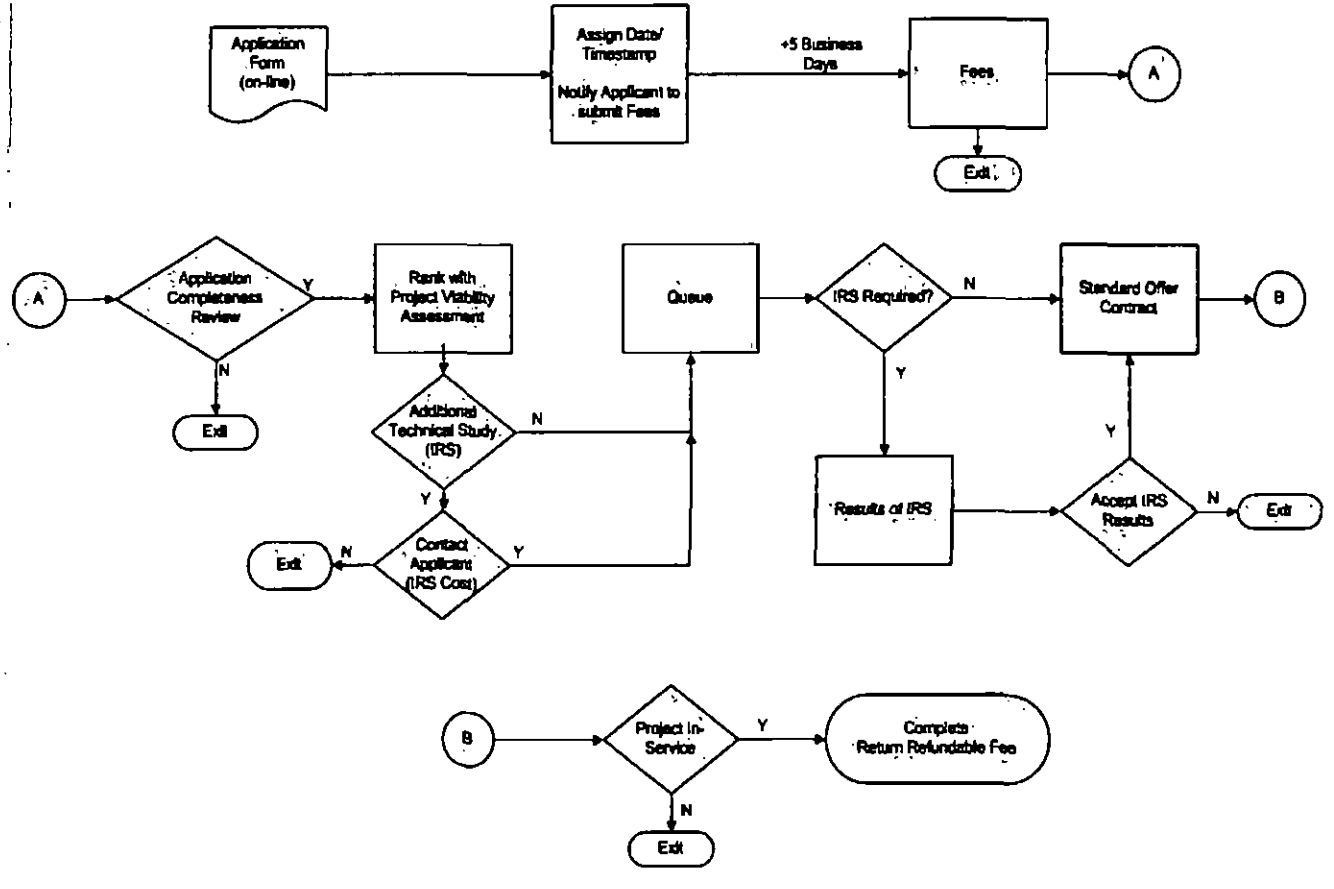
Draft Queuing Procedure Process Flow



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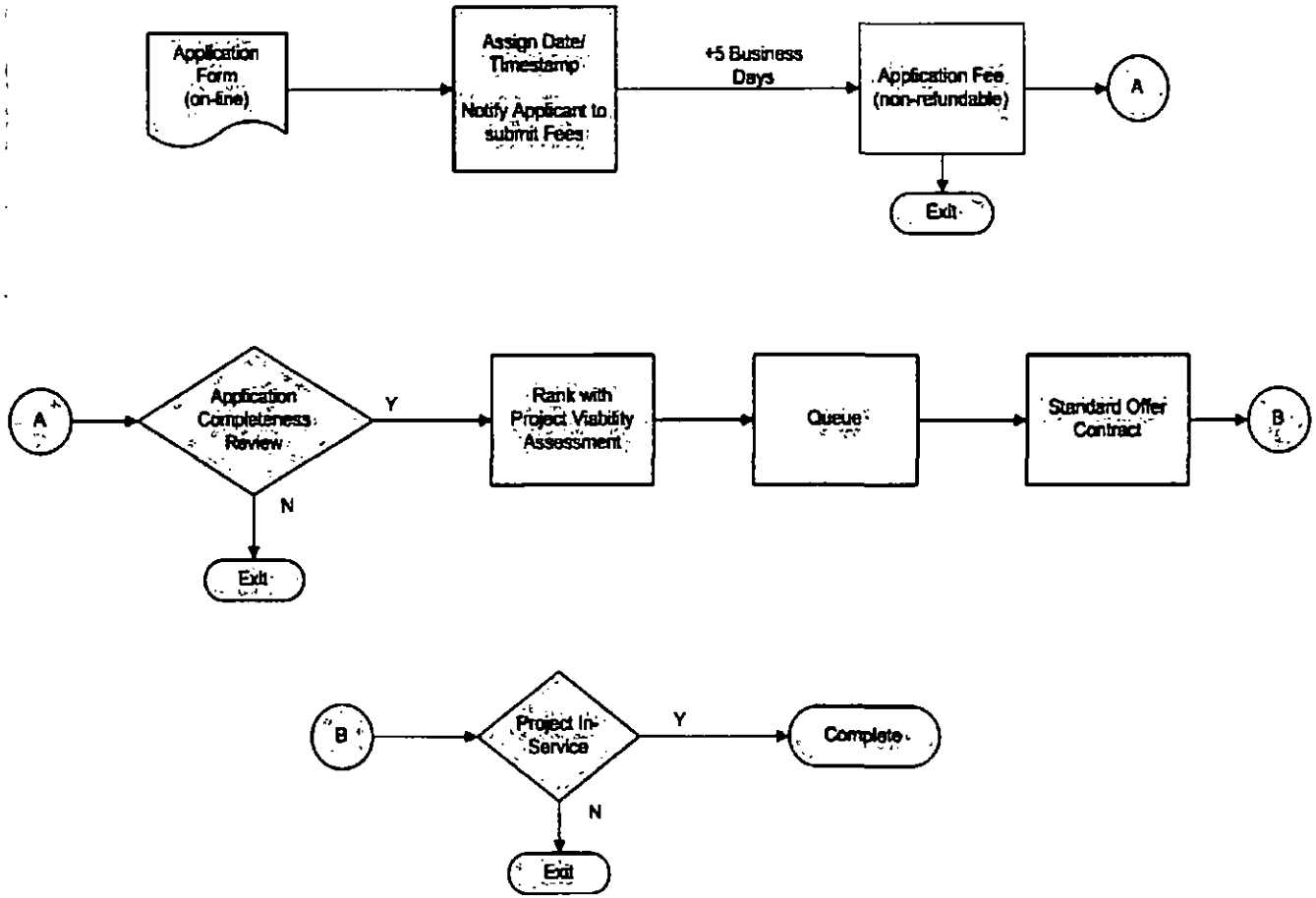
Typical Tier 1 Queuing Procedure Process Flow



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Project Viability Assessment (PVA)

- PVA combined with 'date/time stamp' to establish queue ranking
- PVA criteria will vary by Tier
- Tier 1
  - Interconnection Requirements
  - Site Control
- Tier 2
  - Interconnection Requirements
  - Site Control
  - Experience of Applicant/Contractor/Project Team
  - Financing Plan

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Discussion and Feedback

- Staggered Release of Tier 1 and Tier 2
  - Release Tier 1 first
  - Set initial Tier 1 target to 110% of 5% reservation for Tier 1
  - Tier 2 to follow 4 weeks later after LVMs adjusted
- Transparency of queue – What amount of information on projects should be made public?
- On-line acceptance of contract terms and conditions?
- Setting of fee and deposit amounts
- Should applicants be held to a firm timeframe for Tier 1 projects to be completed in lieu of refundable reservation fee and security deposits?
- Registration
- Other items

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Next Steps

- Review feedback from today's session with the IO
- February 1, 2010 – Filing of Queuing and Interconnection Procedures
- February 11, 2010 – Parties submit information requests
- February 18, 2010 – Parties submit responses to information requests
- February 22, 2010 – Parties comments on queuing and interconnection procedures

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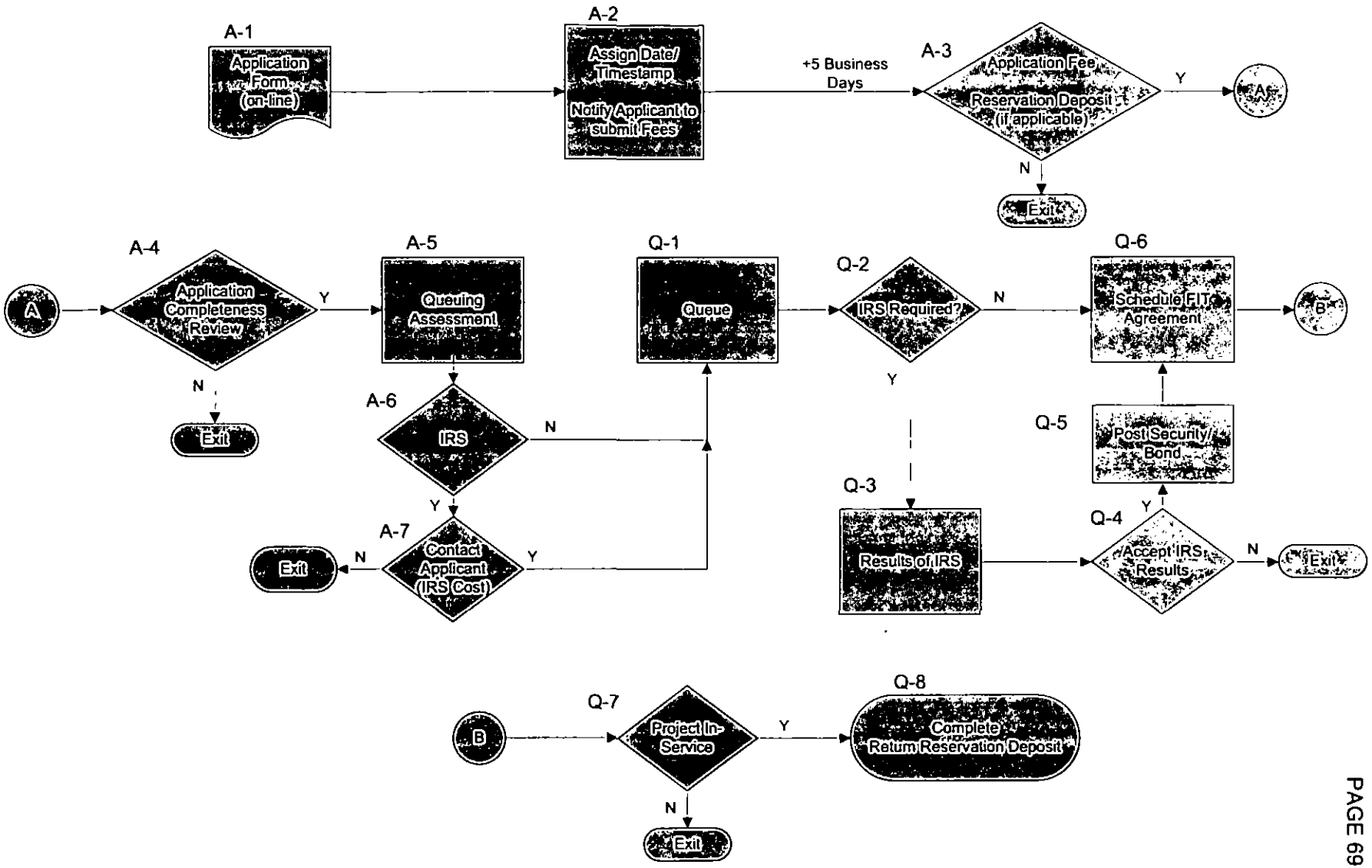

Figure 1 - Feed-In Tariff Application and Queuing Process Flow Chart

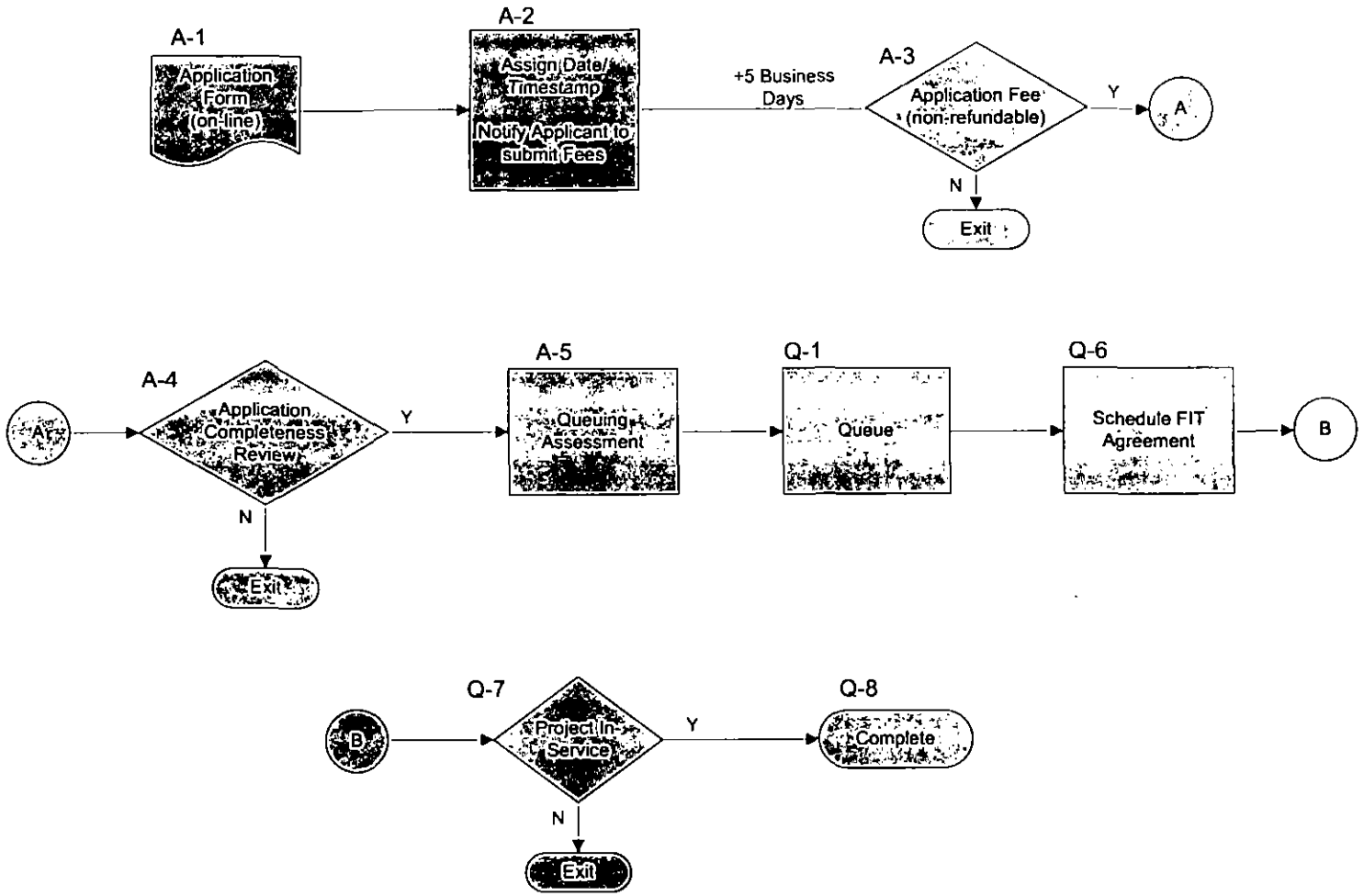

Figure 2 - Typical Tier 1 - Feed-In Tariff Application and Queuing Process Flow Chart

SERVICE LIST
(Docket No. 2008-0273)

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